

IWASAKI ET AL. - 10/801,563  
Client/Matter: 008312-0308798

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A perpendicular magnetic recording medium comprising:
  - a nonmagnetic substrate,
  - a soft magnetic layer formed on the nonmagnetic substrate;
  - a first undercoating layer formed on the ~~nonmagnetic substrate~~ soft magnetic layer,
  - a second undercoating layer formed on the first undercoating layer and having crystal grains and grain boundary region separating the crystal grains, and
  - a perpendicular magnetic recording layer formed on the second undercoating layer,wherein the first undercoating layer contains at least one of the same elements forming the crystal grains of the second undercoating layer, the crystal grains contain at least one element selected from the group consisting of Pt, Ru, Y, Pd, Re and Rh, and the grain boundary material contains at least one ~~of a carbide or boride as a compound~~ boride selected from the group consisting of AlB<sub>2</sub>, HfB<sub>2</sub>, MoB<sub>2</sub>, NbB, NbB<sub>2</sub>, TaB, TaB<sub>2</sub>, TiB<sub>2</sub>, VB<sub>2</sub>, WB, ZrB<sub>2</sub>, CrB, CrB<sub>2</sub>, CeB<sub>5</sub>, LaB<sub>6</sub>, and SmB<sub>6</sub>.
2. (Cancelled)
3. (Cancelled)
4. (Original) A medium according to claim 1, wherein the second undercoating layer contains 1 to 50 mol % of the compound.

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5. (Original) A medium according to claim 4, wherein the second undercoating layer contains 5 to 30 mol % of the compound.

6. (Original) A medium according to claim 1, wherein the crystal grains of the second undercoating layer have at least one of a face-centered cubic or hexagonal closest packed structure.

7. (Canceled)

8. (Original) A medium according to claim 1, wherein the first undercoating layer contains not less than 60 at % of at least one of the same elements forming the crystal grains of the second undercoating layer.

9. (Original) A medium according to claim 1, wherein the perpendicular magnetic recording layer contains Co and Pt.

10. (Currently Amended) A magnetic recording/reproducing apparatus comprising:

a perpendicular magnetic recording medium which comprises a nonmagnetic substrate,

a soft magnetic layer formed on the nonmagnetic substrate;

a first undercoating layer formed on the ~~nonmagnetic substrate~~ soft magnetic layer,

a second undercoating layer formed on the first undercoating layer and having crystal grains and a grain boundary region separating the crystal grains, and

a perpendicular magnetic recording layer formed on the second undercoating layer;

and

a recording/reproducing head,

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wherein the first undercoating layer contains at least one of the same elements forming the crystal grains of the second undercoating layer, the crystal grains contain at least one element selected from the group consisting of Pt, Ru, Y, Pd, Re, and Rh, and

the grain boundary material contains at least one of a carbide or boride as a compound boride selected from the group consisting of  $AlB_2$ ,  $HfB_2$ ,  $MoB_2$ ,  $NbB$ ,  $NbB_2$ ,  $TaB$ ,  $TaB_2$ ,  $TiB_2$ ,  $VB_2$ ,  $WB$ ,  $ZrB_2$ ,  $CrB$ ,  $CrB_2$ ,  $CeB_6$ ,  $LaB_6$ , and  $SmB_6$ .

11. (Original) An apparatus according to claim 10, wherein the recording/reproducing head is a single-pole recording head.

12. (Cancelled)

13. (Cancelled)

14. (Original) An apparatus according to claim 10, wherein the second undercoating layer contains 1 to 50 mol % of the compound.

15. (Original) An apparatus according to claim 14, wherein the second undercoating layer contains 5 to 30 mol % of the compound.

16. (Original) An apparatus according to claim 10, wherein the crystal grains of the second undercoating layer have at least one of a face-centered cubic or hexagonal closest packed structure.

17. (Cancelled)

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18. (Original) An apparatus according to claim 10, wherein the first undercoating layer contains more than 60 at % of at least one of the same elements forming the crystal grains of the second undercoating layer.

19. (Original) An apparatus according to claim 10, wherein the perpendicular magnetic recording layer contains Co and Pt.